



Oregon Mileage Fee Concept and Road User Fee Pilot Program

Presented to
Washington Transportation Commission
Salem, Oregon
February 19, 2008

James Whitty, Manager
Office of Innovative Partnerships
and Alternative Funding





Road User Fee Task Force

Legislative Mandate:

“To develop a design for revenue collection for Oregon’s roads and highways that will replace the current system for revenue collection.”



The Gas Tax – A Nearly Perfect Tax

- Raises substantial revenue
- Easy to pay
- Easy to collect
- Easy to administer
- Minimal evasion
- Protects privacy
- Minimal burden on business

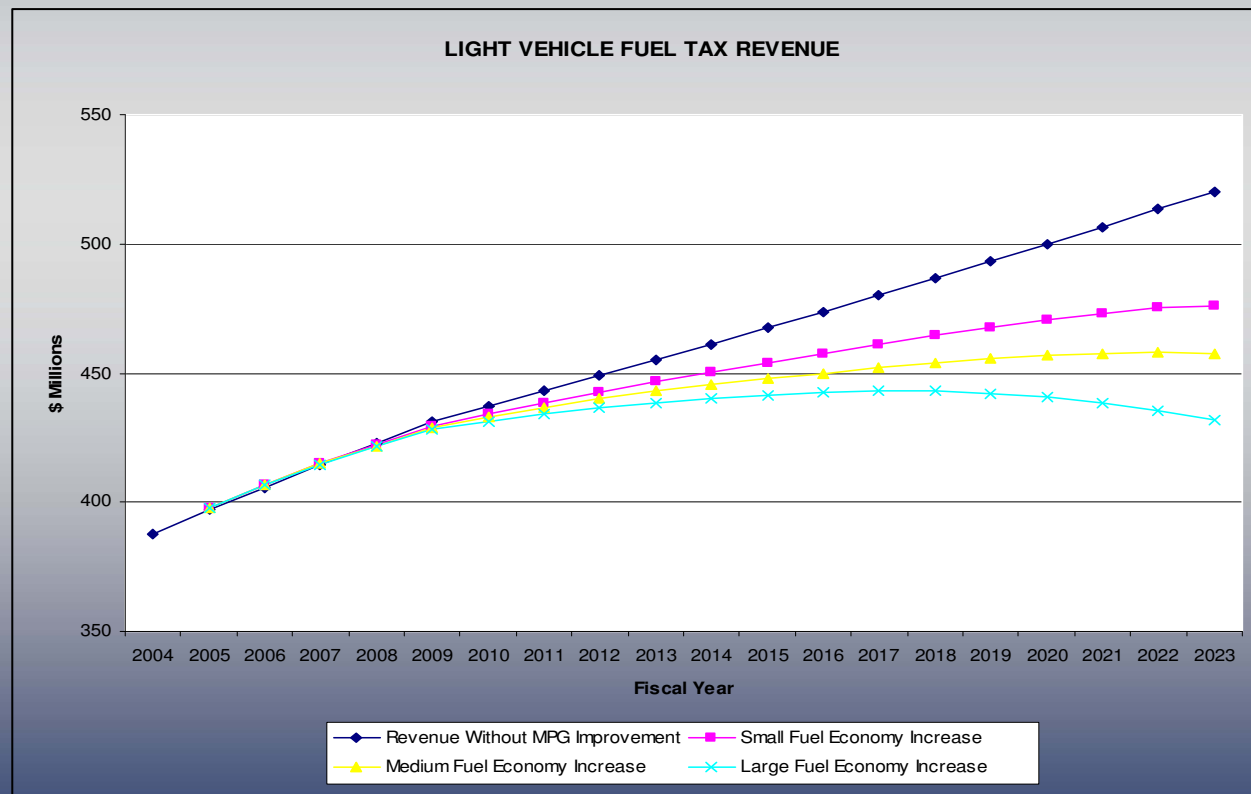




The Gas Tax – A Not So Perfect Tax

Revenue erosion

Disconnected from
highway system





Solution: A Mileage Fee

An electronically collected
charge on in-state mileage

Replaces state fuel tax





Steps Required for Electronic Collection

- 1** Data generation
- 2** Data upload
- 3** Data management
- 4** Payment





Mileage Fee Collection Challenges

- Start up and operations costs
- Collection enforcement
- Integration with current system
- Seamless transition
- System redundancy
- Ease of use by motoring public





Collection Possibilities for Data and Payment



Centralized collection

- Operations costly
- Collection enforcement problematic
- No gas tax integration
- Not motorist friendly
- No system redundancy
- Accommodates all vehicles
- Accommodates small geographic area

✓ Collection at fuel pump

- Integrates with fuel tax
- Operations affordable
- Enforcement simple
- Motorist friendly
- Solves most structural issues
- No Non-Liquid Fuel Vehicles
- Large Geographic Area Required



Oregon's Mileage Fee Concept: Two Purposes

- 1** Create a reliable, broad-based charge to replace fuel tax as principal road funding mechanism
- 2** Create an electronically collected charge to assist management of road congestion levels



Creation of Zones

Charge on miles driven
within Oregon by zone

Zone 1 = in state

Zone 2 = out of state

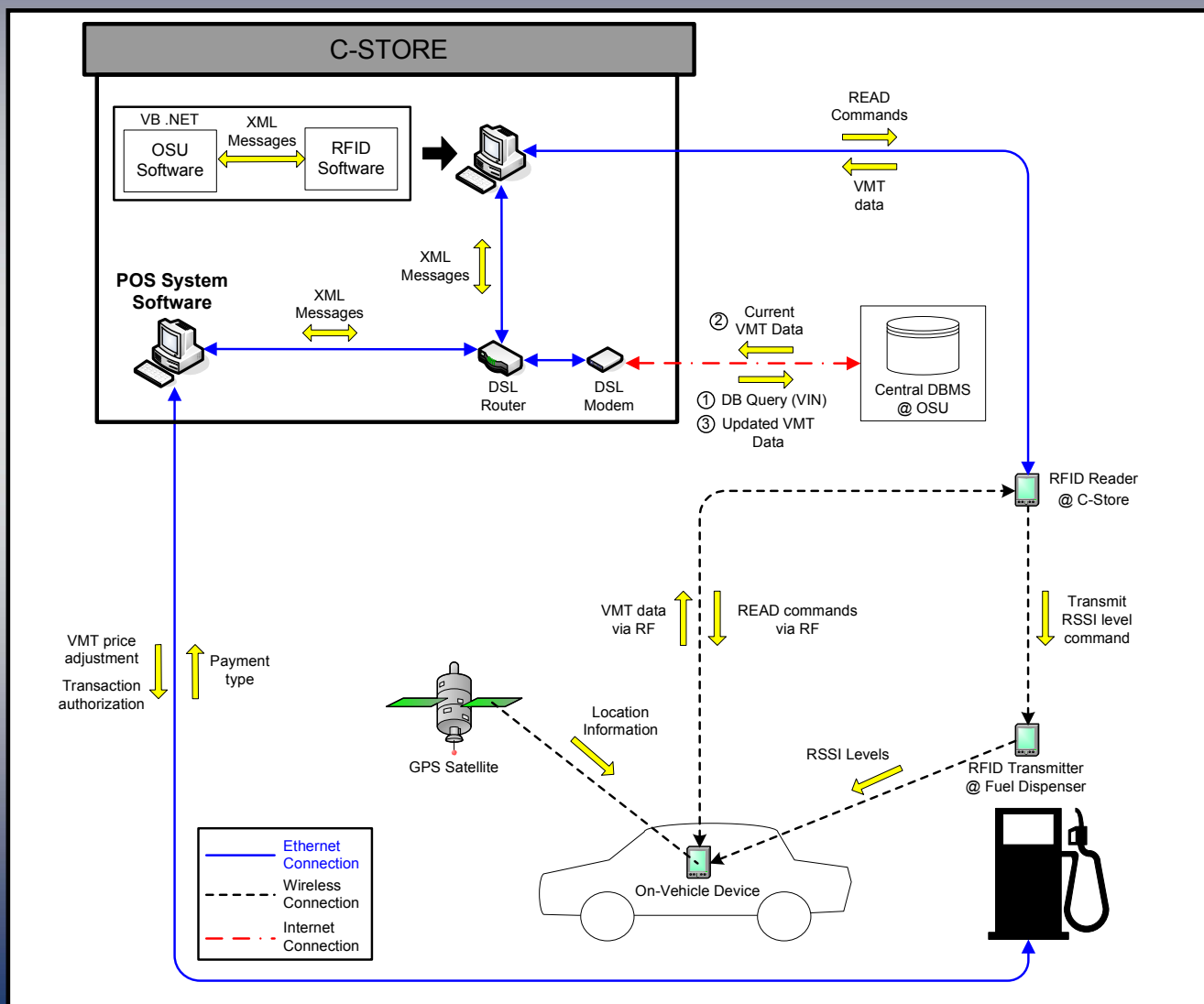
Zone 3 = local option

Zone 4 = rush hour



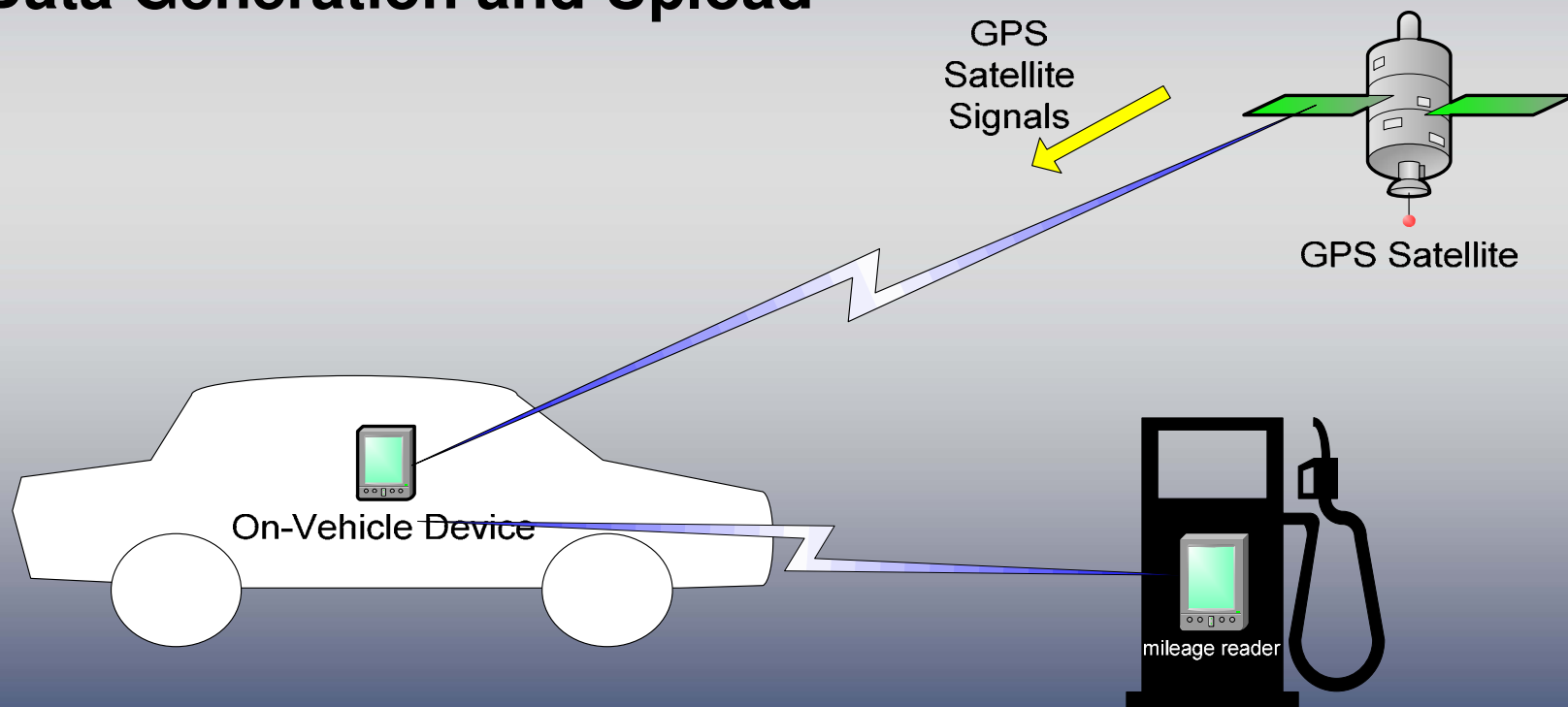


Oregon Technology Configuration



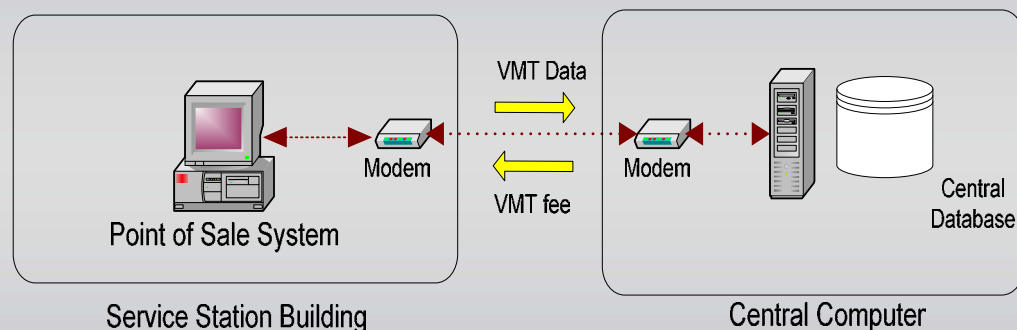


Data Generation and Upload





Data Processing and Fee Charging



Data Transferred:

1. Vehicle Device Identification
2. Mileage Totals for Each Zone
3. Amount of Fuel Purchased



csr

R# 1 S# 1 T# 882316 10:55 AM
06/09/06

Leathers Fuels
11421 SE Powell Blvd
Portland, OR 97266

Pump# 1 Unleaded

19.50 @ 2.549	49.71
ST Fuel Tax @ .24	(4.68)
VMT Fee :	5.12
Rush Hour :	40
In-Oregon :	28.6
Non-Oregon:	0
No Signal :	0
Subtotal	50.15
Total	50.15
Cash	50.15

Thank You !

Payment and Receipt

Fuel tax deducted from fuel purchase price

Mileage fee imposed as part of fuel purchase



What About...

Heavy trucks?

Non-equipped cars?

Integration with the gas tax?





Integration with Fuel Tax

Bulk of mileage fees
pre-paid by distributors

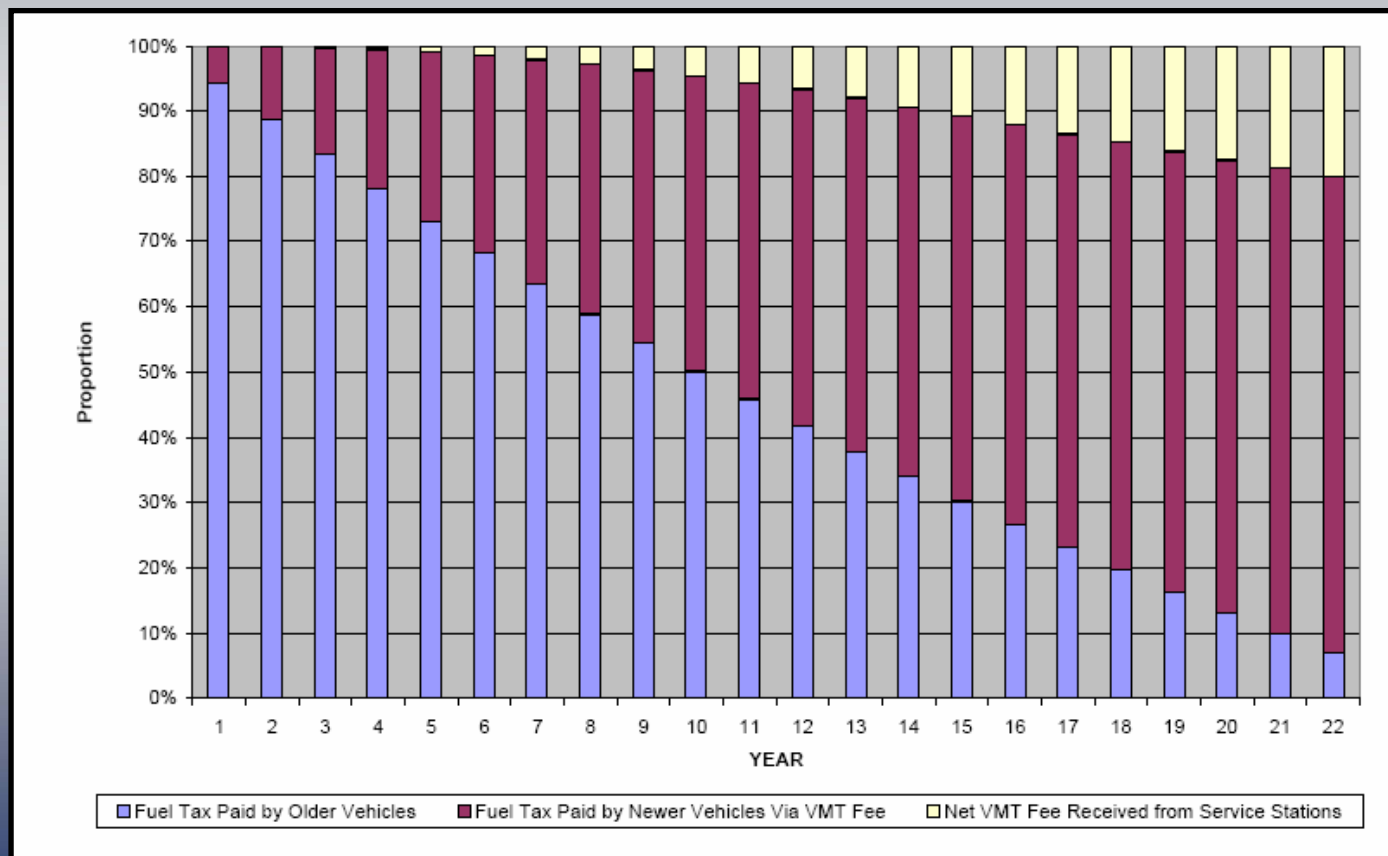
Mileage fee gradually
becomes predominant

Fuel tax retained to guard
against system failure and
tampering





Estimate of Mileage Fee Revenue Shares over Time





Capital and Operating Costs for Full Implementation

Vehicles

No retrofitting

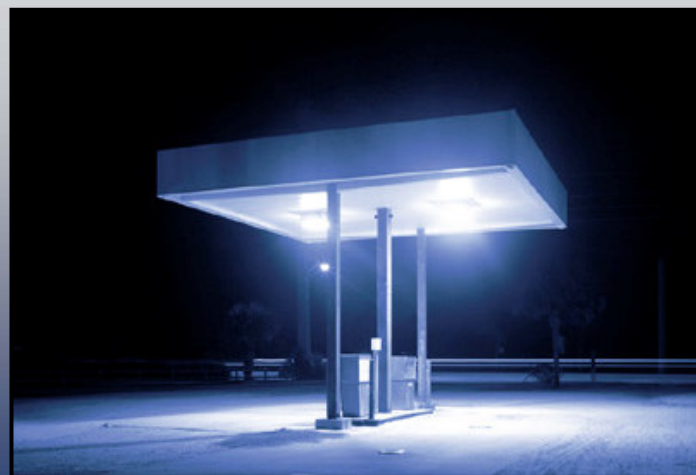
Components installed in new vehicles prior to sale



Service Stations

Capital costs: \$35 m

Annual operating costs: \$1.6 m





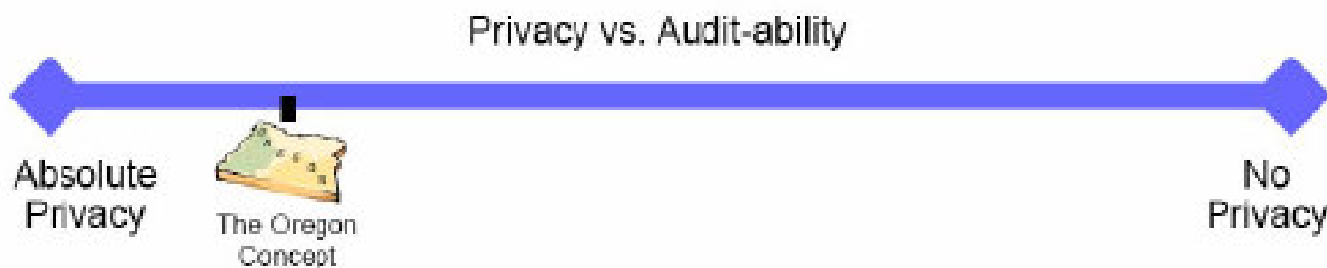
Privacy

No data transferred
except mileage totals
within zones

Data transferred only at
time of fueling via short
range radio frequency

No vehicle location data
stored in vehicle





Absolute Privacy

- No records maintained
- No ability to audit
- No ability for customer validation

No Privacy

- Detailed trip data maintained
- Full ability to audit
- Full ability for customer validation



How Oregon Mileage Fee Compares with Gas Tax

- Raises substantial revenue
- Easy to collect
- Easy to administer
- Easy to pay
- Minimal evasion potential
- Protects privacy
- Minimal burden on business
- Directly connected to highway use
- No revenue erosion for fuel efficiency





Oregon Department of Transportation



Road User Fee Pilot Program

April 1, 2006 to
March 25, 2007

OSU Oregon State University



U.S. Department
of Transportation
**Federal Highway
Administration**

**PORTLAND STATE
UNIVERSITY**



CAR•TOYS
A better way to go.



HDR



Pilot Program Field Test

285 participant vehicles
Compensation \$300 per vehicle
Control phase & experiment phase

Three zones

In Oregon

Not in Oregon

Rush Hour

Three test groups

Control group paid state gas tax

VMT group paid 1.2 cents per mile but no state gas tax

Rush hour group paid 10 cents per mile within congestion zone
and .43 cents per mile for regular travel but no state gas tax





Pilot Test Technology Configuration

On-vehicle device technology

Service station technology

Data storage/retrieval technology





Challenges of System Components

On-vehicle device operation

- Device compatibility with OBDII interface
- Consistency of device manufacturing
- Non-standard vehicle powering systems



System operation

- POS software system
- Fueling station management





Lessons Learned #1

Evasion potential

Retention of gas tax as default system

Ease of enforcement

Comparison of mileage with
estimated fuel efficiency

Auditing costs

Comparable to gas tax system





Lessons Learned #2

Integration with Existing Systems

Ability to run two systems simultaneously

Phasing or partial implementation

Allows running two systems at once





Lesson Learned #3

Capital, Operating and Maintenance Costs

Cost of Collection

Service station costs

- POS system software

- Telecommunications

- True-up system

On-vehicle device

- Maintenance and cost

- Replacement





Lesson Learned #4

Adaptability to Congestion Pricing



Area pricing

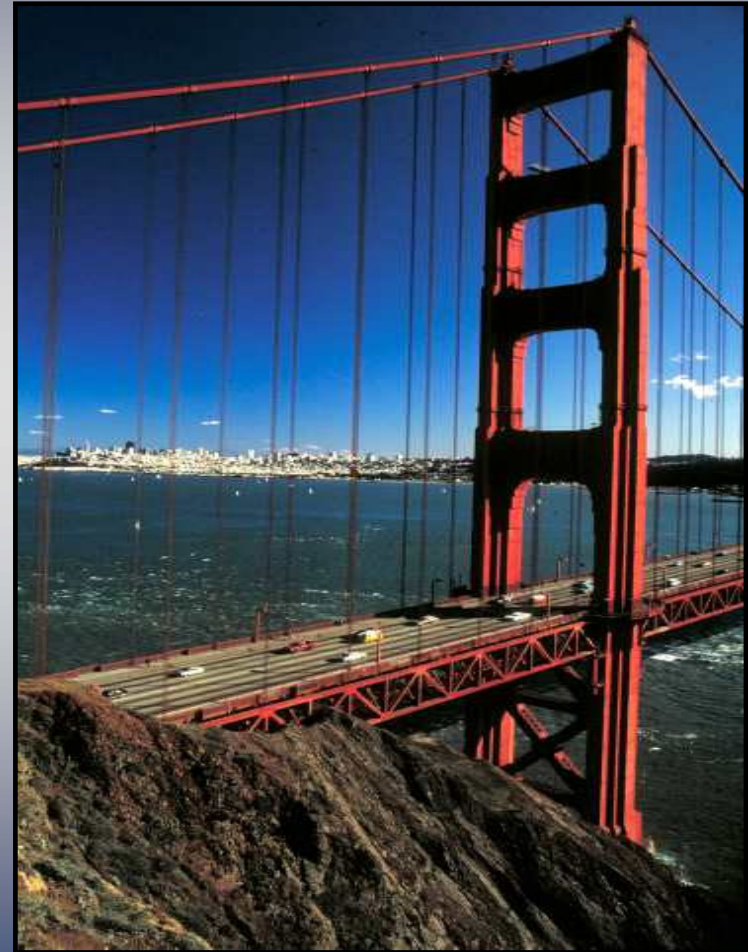
Higher mileage fee rates during peak periods in defined geographic zones





Additional Uses: Facility Pricing

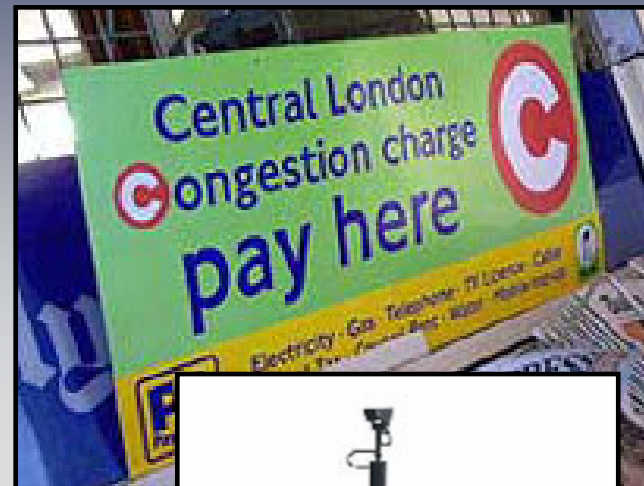
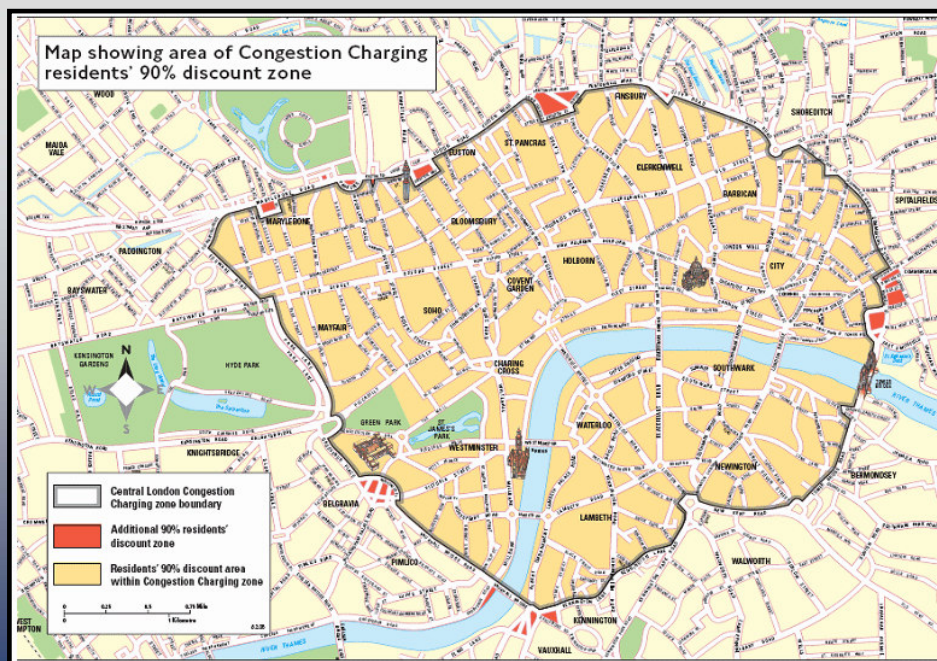
Tolling new bridges or roads





Additional Uses: Cordon Pricing

Point charges without cameras, back room operations or central billing

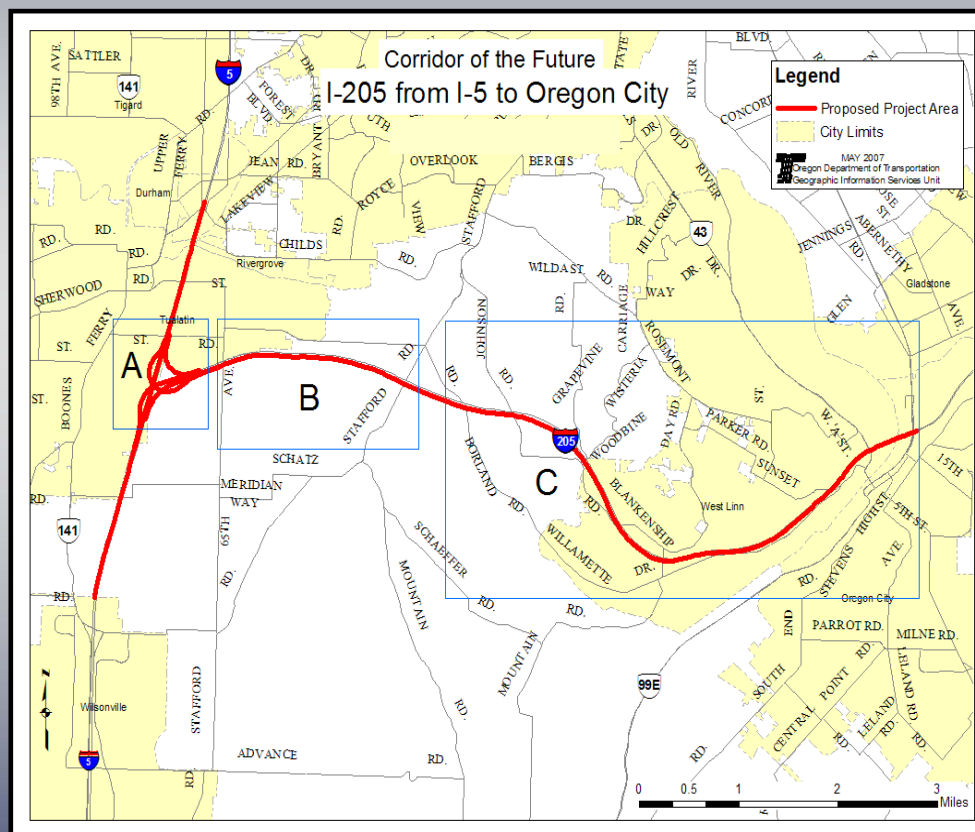




Additional Uses: Pricing On-Ramps

Managing traffic flow on limited access highways without additional physical infrastructure

Point charge or distance charge





Field Test Final Results

Successes

- Zone differentiation
- Mileage counting
- Vehicle identification with fuel pump
- Transmission accuracy
- Transaction administration
- Reduced Peak Driving 22%
- Acceptance by Participants



Needs More Work

- Perfect vehicle identification
- Improve cash transaction time

Fundamental Lessons

- Retrofitting extremely difficult
- Technical assistance to stations



Key Mileage Fee Policy Issue – *The Rate Structure*

Options:

Flat Rate – No Subsidies

Variable Rate

Fuel efficiency

Vehicle weight

Emissions

Geography

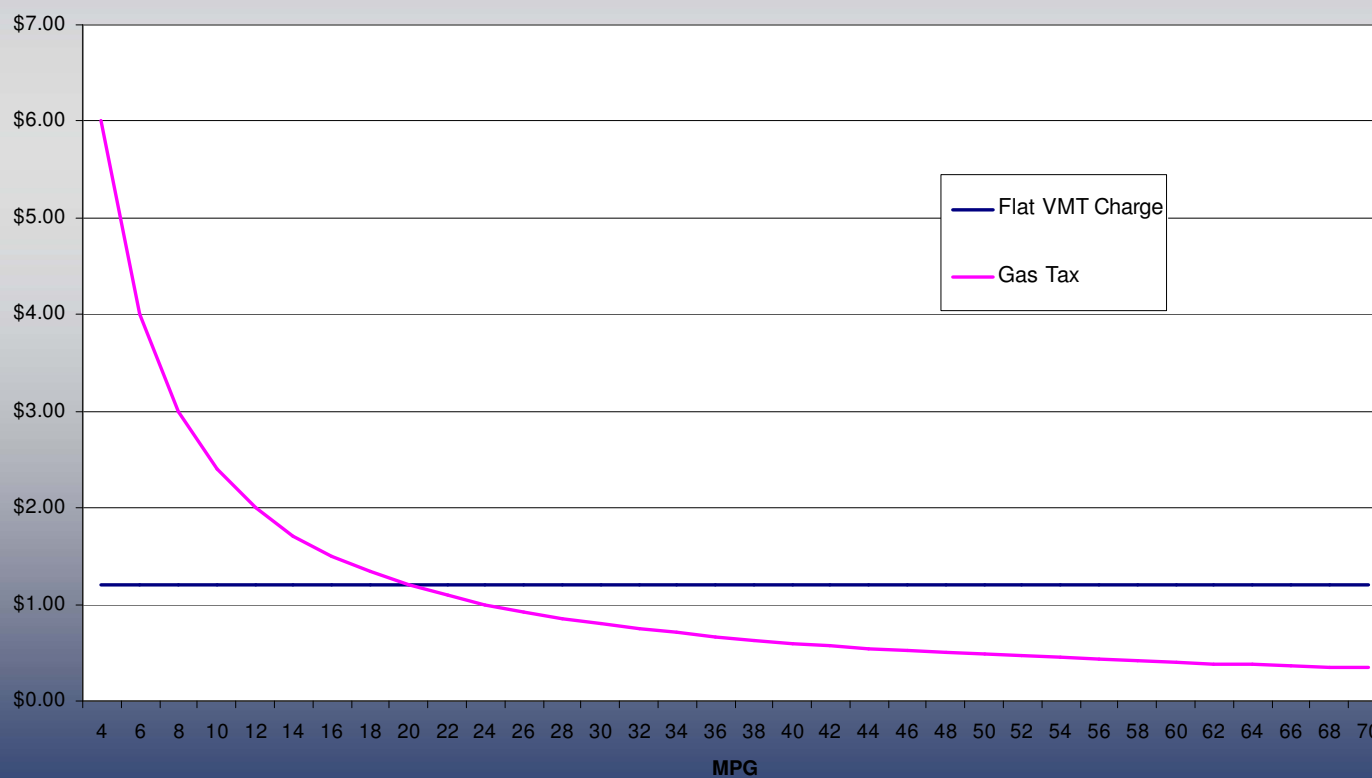




Key Policy Issue – The Rate Structure

Possibility # 1: Flat mileage charge

FLAT VMT CHARGE VS. FUEL TAX

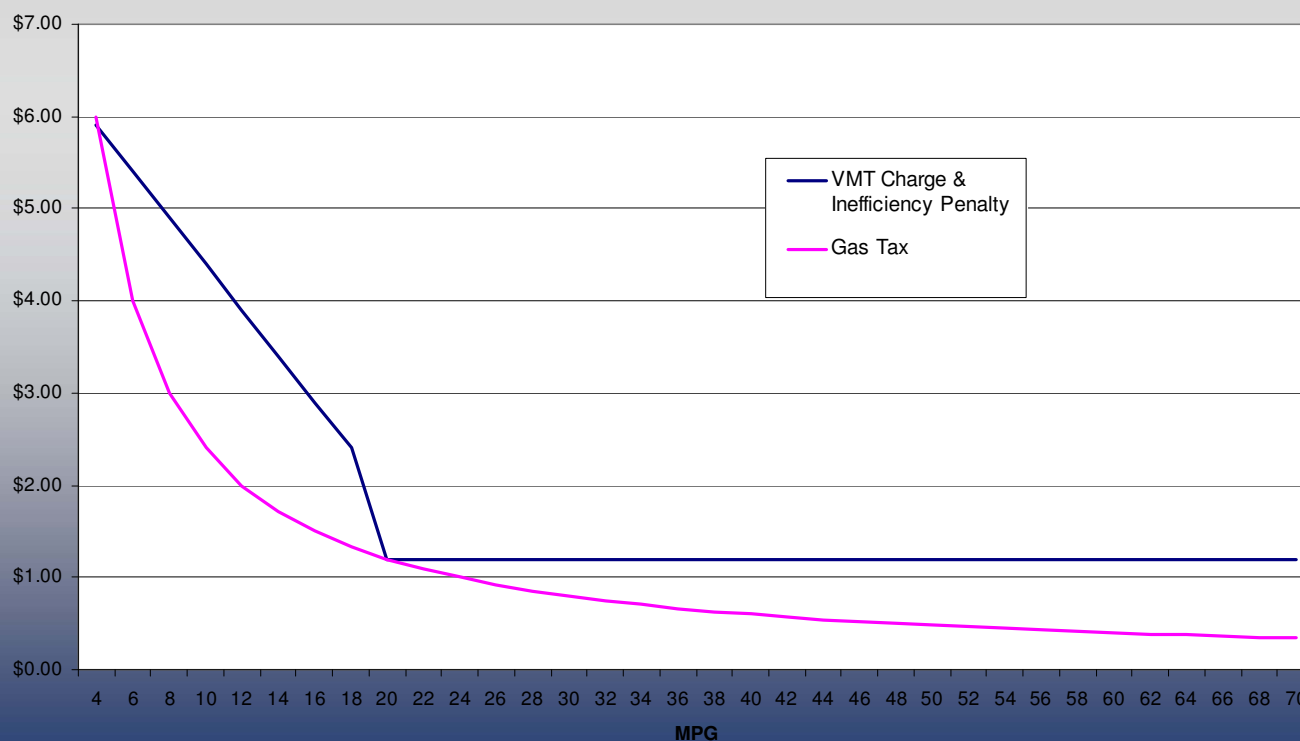




Key Policy Issue – The Rate Structure

Possibility # 2: Add fuel inefficiency penalty to mileage charge

VMT CHARGE & INEFFICIENCY PENALTY VS. FUEL TAX

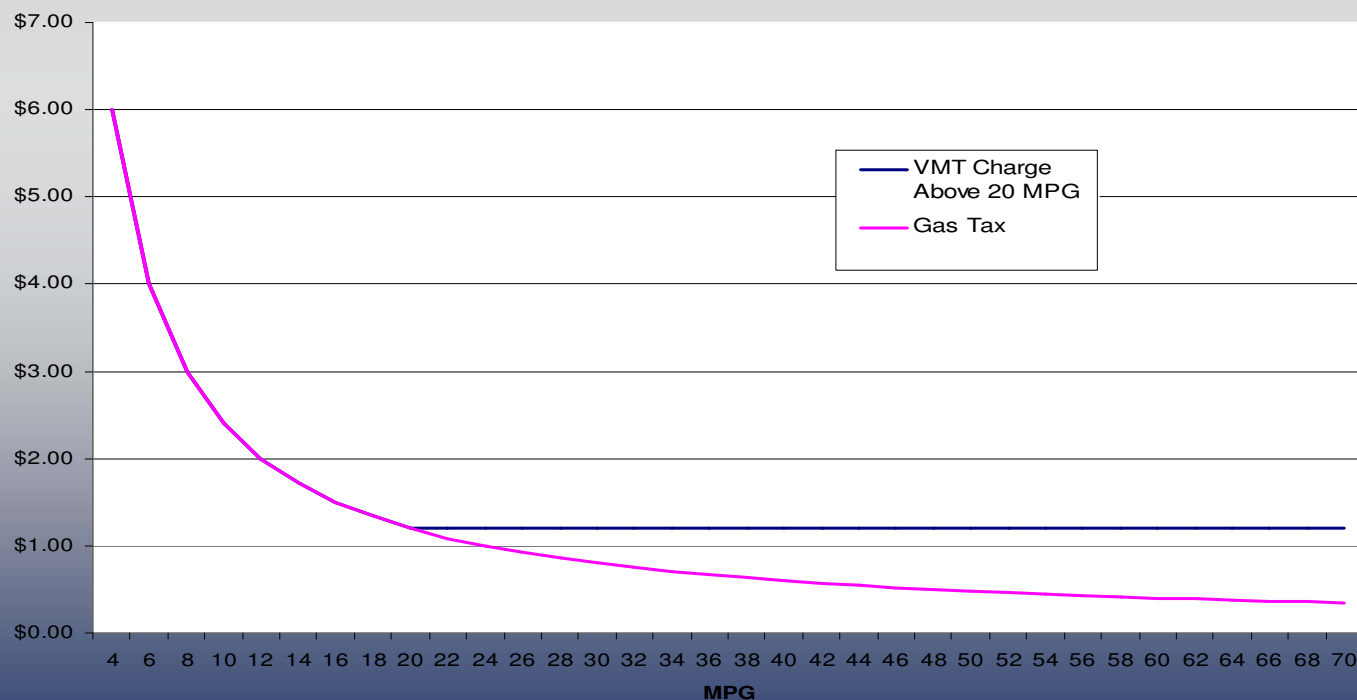




Key Policy Issue – The Rate Structure

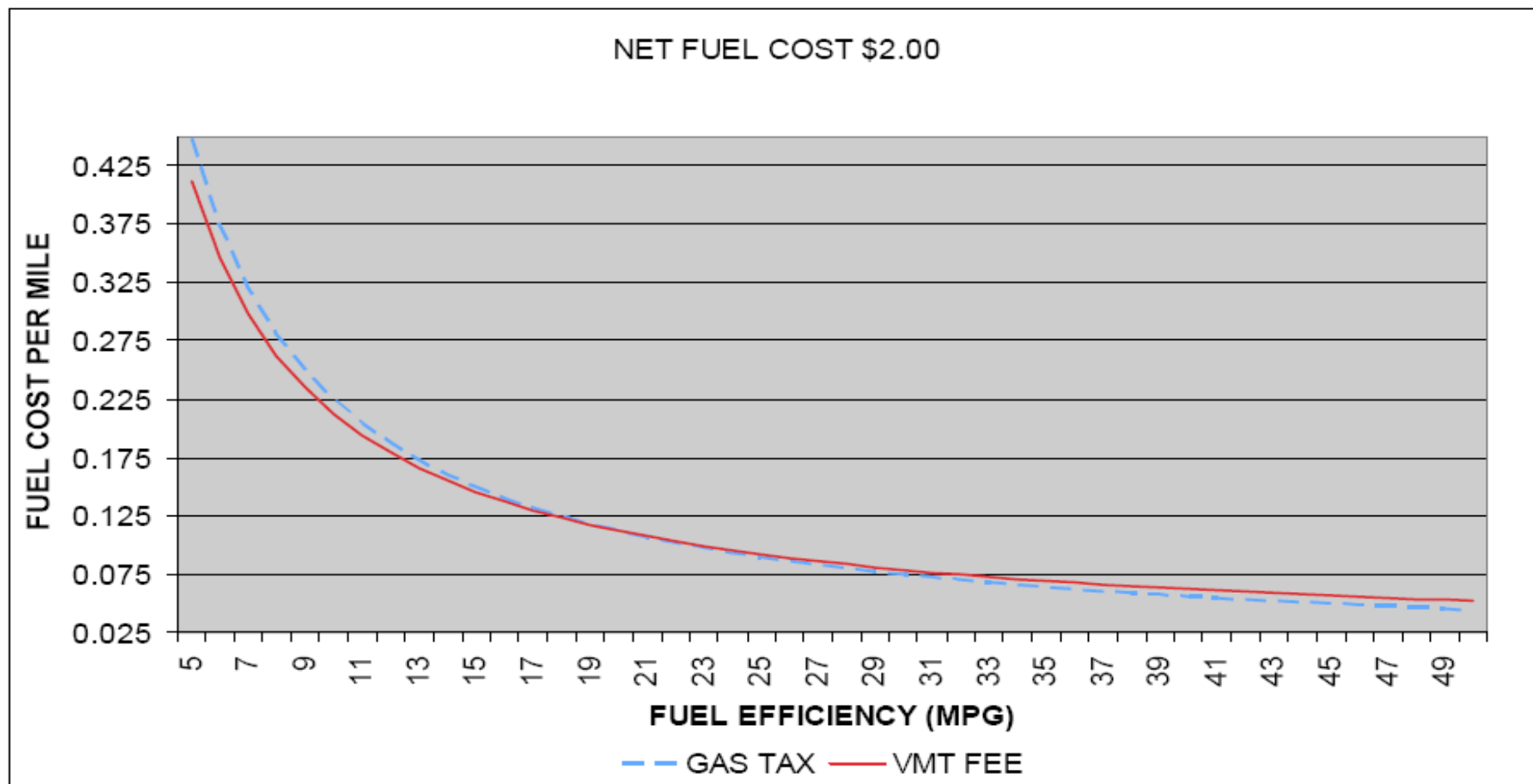
Possibility # 3: Fuel efficient vehicles pay mileage charge &
Low fuel efficiency vehicles pay gas tax

VMT CHARGE Above 20 MPG VS. FUEL TAX





The Oregon Concept Fuel Cost Per Mile Comparison





Obtaining Public Acceptance of the Per-Mile Charge



Direct communication necessary

The public must understand the problem

Gas tax loss may have to be obvious



Oregon's VMT Fee Concept Key Steps to Implementation

Refine technologies and
investigate alternatives

Define manufacturing standards

Address concerns of fuel
distribution industry

Integrate with collection system
for all-electric vehicles





Collection Possibilities for Plug-In All-Electric Vehicles

Centralized Collections

Utility Meter Collection

Vehicle Re-registration
Collection





Conclusions

Timeline to Implementing *The Oregon Approach*

Small state unlikely to implement
mileage fee concept alone

Consortium of small states – ten to
twelve years

Strong effort by USDOT or State of
California – three to five years

Alternative: VMT estimate collected at
fuel pump – two to three years





Final Report

www.oregon.gov/ODOT/HWY/RUFPP/docs/RUFPP_finalreport.pdf

